1871MNRAS..31..214H

I have made a calculation of the time of disappearance which I find to be $15^{h}\,24^{m}\,43^{s}$, and this agrees well with the $15^{h}\,25^{m}$ of the *Nautical Almanac*, which rejects in the list of Occultations all subdivisions of the minute; but I find there is a difference in the time of reappearance—my calculation being $16^{h}\,18^{m}\,9^{s}$ against the *Nautical Almanac* $16^{h}\,19^{m}$, which it may be noticed is not the equivalent for $15^{h}\,0^{m}$ sidereal time.

If Captain Noble's observation was made at Maresfield, the mean time of disappearance there would be about $15^{h}\,25^{m}\,44^{s}$.

But how is the observation to be reconciled with the calculated time? Must we conclude that the tabulated places of the Moon or *Uranus* in the *Nautical Almanac* are wrong*—or with respect to the observation itself, may we not entertain a doubt as to the presence of some of the conditions which are essential to a good determination.

Norwich, 26 *April*, 1871.

On the First Comet of 1867. By J. R. Hind, F.R.S.

In No. 1639 of the *Astronomische Nachrichten*, Professor Winlock has given elliptic elements of the comet discovered at Marseilles by M. Stephan, in January 1867, calculated by Mr. Searle, of Harvard Observatory, Cambridge, U. S., in which the period of revolution is 33·62 years. These elements are stated to represent closely the observations taken with the great refractor of that observatory; and those who have had occasion to use the Harvard observations will be aware that they possess an extreme precision.

I have remarked in this orbit a very near approach to that of the planet *Uranus*, when the comet passes its descending node (5789 days before perihelion). At this point the comet's heliocentric ecliptical co-ordinates are

$$x = -3{\cdot}784730 \qquad y = -18{\cdot}763121 \qquad z = 0$$

and in this longitude the similar co-ordinates of *Uranus* are

$$x = -3{\cdot}784974 \qquad y = -18{\cdot}764332 \qquad z = -0{\cdot}023115$$

whence the distance between the two orbits is 0·02343 only; an approximation which appears to explain the cause of the actual form of the comet's orbit.

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* It was noticed at the Meeting, that the existing Tables of *Uranus* (Bouvard's), from which the *Nautical Almanac* places are calculated, are confessedly inaccurate to an extent which quite accounts for the error.—Ed.

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1871MNRAS..31..215H

It is also to be remarked that there is a singular commensurability in the periods

		yrs.
5 × sidereal period of Comet	=	168·120
2 × sidereal period of *Uranus*	=	168·032

affording a parallel to the well-known 5 to 2 relation in the great inequality of *Jupiter* and *Saturn*.

If Mr. Searle's elements are nearly correct (as appears to be the case), the comet would not suffer any extraordinary perturbation about the nodal passage in 1817, the nearest approach to *Uranus* being then about 1·05; but in 1649 the distance between the two bodies may have been much less.

Ephemeris of the Periodical Comet of Tuttle, for its approaching Reappearance. By J. R. Hind, F.R.S.

In No. 1840 of the *Astronomische Nachrichten,* Prof. Luther has published an orbit of this comet found amongst the papers of the late Dr. Tischler, of Königsberg, in which the perturbations during the present revolution had been partially included. According to these elements the next perihelion passage will occur about 1871, Nov. 30·5, and on this assumption I have calculated the following ephemeris to facilitate the comet's rediscovery. The expressions for the comet's heliocentric co-ordinates referred to the Mean Equinox of 1871·0 are

$$x = r \cdot [9{\cdot}7663098] \cdot \sin(v + 205^\circ\ 35'\ 31''),$$
$$y = r \cdot [9{\cdot}9888950] \cdot \sin(v + 97\ \ 1\ \ 10),$$
$$z = r \cdot [9{\cdot}9253116) \cdot \sin(v + 178\ \ 34\ \ 48).$$

Ephemeris for Greenwich Noon.

T = 1871, Nov. 30·5.

1871.	R.A. ° ′	Decl. ° ′	Log Δ.	Log *r*.	$\frac{1}{r^2\Delta^2}$
Sept. 1	100 13·2	+62 22·7	0·2377	0·2201	0·12
3	102 30·5	61 56·4			
5	104 45·0	61 27·4	0·2221	0·2094	0·14
7	106 56·6	60 55·6			
9	109 5·3	60 21·1	0·2059	0·1984	0·16
11	111 10·9	59 43·8			
13	113 13·4	59 3·7	0·1890	0·1873	0·18
15	115 12·8	58 20·7			
17	117 9·1	57 34·9	0·1713	0·1760	0·20
19	119 2·1	56 46·2			
21	120 52·0	55 54·5	0·1628	0·1645	0·23
23	122 38·8	54 59·8			

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